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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,732	01/15/2002	Toshiaki Yoshihara	1100.66111	5175

7590 12/16/2003

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT	PAPER NUMBER
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2674

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/047,732

Applicant(s)

YOSHIHARA ET AL.

Examiner

Jennifer T Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 January 2002.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Adachi (Pub. No.: US 2001/0038369).

Regarding claims 1 and 2, referring to Figs. 12-21, Adachi teaches a liquid crystal display Device (100), comprising: two substrates (101, 102) confronting each other; a liquid crystal material having spontaneous polarization sealed between said substrates; pixel electrodes (CL) corresponding to liquid crystal cells, provided on an inner face of one of said substrates; switching elements (1) respectively connected to each of said pixel electrodes; and storage capacitors (Cs) for storing electric charge, respectively connected to each of said pixel electrodes; wherein a ratio of capacity of said storage capacitor (Cs) against that of said liquid crystal cell (CLc) is not less than 0.2 and not more than 5 (see paragraphs [0163]-[0169], [0178], and [0237]-[0250]).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-6, 9-13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi (Pub. No.: US 2001/0038369) in view of Uchida (U.S. Patent No. 6,108,058).

Regarding claims 3-6, Adachi differs from claims 3-6 in that he does not specifically teach data writing time on said liquid crystal cell and said storage capacitor through said switching element is set so that amount of transmitted light due to the switching of said liquid crystal material determined by image data during off state of said switching element does not substantially change and data writing time is not more than 10 microseconds. However, referring to Fig. 3, Uchida teaches data writing time on said liquid crystal cell and said storage capacitor through said switching element is set so that amount of transmitted light due to the switching of said liquid crystal material determined by image data during off state of said switching element does not substantially change and data writing time is not more than 10 microseconds (from col. 5, line 8 to col. 6, line 53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the data writing time as taught by Uchida in the system of Adachi in order to achieve stabilized display of a half tone is.

Regarding claims 9-13, the combination of Adachi and Uchida teaches liquid crystal material is a ferroelectrics liquid crystal (col. 1, lines 54-67).

Regarding claim 20, the combination of Adachi and Uchida teaches color filters for displaying colors (col. 1, lines 12-31 of Uchida).

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5. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi (Pub. No.: US 2001/0038369) in view of Uchida (U.S. Patent No. 6,108,058) and further in view of Tagawa (U.S. Patent No. 5,534,892).

Regarding claims 7 and 8, the combination of Adachi and Uchida differs from claims 3-6 in that it does not specifically teach data writing time on said liquid crystal cell through said switching element is not more than 5 microseconds. However, Tagawa teaches data writing time on said liquid crystal cell through said switching element is not more than 5 microseconds (col. 7, lines 4-10). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the data writing time as taught by Tagawa in the system of the combination of Adachi and Uchida in order to achieve stabilized display of a half tone.

6. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adachi (Pub. No.: US 2001/0038369) in view of Kaneko (U.S. Patent No. 6,151,004).

Regarding claims 14-19, Adachi differs from claims 14-19 in that he does not specifically teach a back-light having at least one light source that emits light of a plurality of colors; and a switching unit for switching colors of emitted light of said light source in a time-divided manner in synchronism with the switching of said liquid crystal material of said liquid crystal cell.

However, Kaneko teaches a back-light having at least one light source (1) that emits light of a plurality of colors; and a switching unit (not shown) for switching colors of emitted light of said light source in a time-divided manner in synchronism with the switching of said liquid crystal material of said liquid crystal cell (from col. 1, line 20 to col. 2, line 5). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the back-light having at least one light source that emits light of a plurality of colors; and the

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switching unit for switching colors of emitted light of said light source in a time-divided manner in synchronism with the switching of said liquid crystal material of said liquid crystal cell as taught by Kaneko in the system of Adachi in order to obtain the images visible on the display panel efficiently.

7. The prior art made of record and not relied upon is considered to pertinent applicant's disclosure.

Fuller (U.S. Patent No. 6,621,482) teaches display arrangement with backlight means.

Bitzakidis et al. (U.S. Patent No. 5,912,651) teaches matrix display systems.

Miyazawa (U.S. Patent No. 5,731,794) teaches color panel display device.

Rho (U.S. Patent No. 6,466,288) teaches multi-domain LCD device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Nguyen whose telephone number is 703-305-3225. The examiner can normally be reached on MON-THU from 9:00-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Richard A Hjerpe** can be reached on **703-305-4709**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

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Hand-delivered response should be brought to Crystal Park II, 2121 Crystal Drive,
Arlington, VA, Sixth floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding
should be directed to the Technology Center 2600 Customer Service Office whose telephone
number is (703) 306-0377.

Jennifer T. Nguyen
Patent Examiner
Art Unit 2674

JN
December 5, 2003



RICHARD MURPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600